

University of Pretoria Yearbook 2016

Design and analysis of experiments 780 (BDE 780)

Qualification Postgraduate

Faculty [Faculty of Engineering, Built Environment and Information Technology](#)

Module credits 16.00

Programmes [BEngHons Industrial Engineering](#)

[BScHons Applied Science Applied Science: Industrial Systems](#)

Prerequisites No prerequisites.

Contact time 24 contact hours

Language of tuition English

Academic organisation Industrial and Systems Eng

Period of presentation Semester 1 or Semester 2

Module content

The design of an experiment may be defined as 'the logical construction of an experiment in which the degree of uncertainty with which the inferences are drawn may be well defined'. The module deals with the following:

- Principles of experimental design (Randomisation, Replication and Blocking (local control))
- One-Factor-Two-level Factorial Designs
- One-Factor-Multi-level Factorial Designs
 - o Completely Randomised Design (CRD) and introduction to ANOVA
 - o Randomised Complete Block Design (RBD)
 - o Latin Square Design (LSD)
 - o Balanced Incomplete Block Design (BIBD)
- Factorial Experiments (2nd and 3rd factorial experiments)
- Blocking and Confounding in Factorial designs
- Overview of Factorial Designs

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